

CLAIMS:

1. An electrowetting module comprising a fluid chamber, containing at least a first body of a first conducting and/or polar fluid and a second body of a second non-conducting and/or non-polar fluid, the two bodies being separated by an interface, and means for exerting a force on at least one of the bodies to change the position and/or shape of the interface, characterized in that the second fluid body comprises a dissolved or mixed compound being insoluble in or immiscible with the first fluid body, and/or the first fluid body comprises a dissolved or mixed compound being insoluble in or immiscible with the second fluid body, said amounts of compounds being sufficient for lowering the freezing point of the respective fluids to below -20°C .
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2. An electrowetting module as claimed in claim 1, wherein the amount of the dissolved compound is sufficient for lowering the freezing point of the respective fluid to below -30°C , preferably to -40°C .
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3. An electrowetting module as claimed in claim 1, wherein the concentration of said dissolved compound in said fluid body is at least 4M, preferably 6M.
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4. An electrowetting module as claimed in claim 1, wherein said compound being dissolved in or mixed with the first body of fluid is an inorganic salt containing cations having an atomic weight below 50 u, preferably below 40 u.
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5. An electrowetting module as claimed in claim 4, wherein said inorganic salt is a chlorine salt, preferably lithium chloride, ammonium chloride or sodium chloride, more preferably lithium chloride.
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6. An electrowetting module as claimed in claim 1, wherein said compound being dissolved in or mixed with the first body of fluid is an organic compound, preferably selected from among methanol, ethanol and ethylene glycol.

7. An electrowetting module as claimed in any of the claims 1 to 3, wherein said compound being dissolved in or mixed with the second body of fluid is selected from carbon tetrabromide, dibromobenzene, tribromobenzene, dichlorobenzene, trichlorobenzene, naphthalene and biphenyl.

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8. A module as claimed in any one of claims 1-7, configured as an optical component, the first and said second fluid bodies having different refractive indices, wherein the compound added to said first fluid has a refractive index difference increasing effect.

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9. A module as claimed in claim 8, wherein the first fluid body is electrically conducting and/or polar, and the second fluid body is electrically non-conducting and/or non-polar, the module being provided with means for exerting an electric force to change the position and/or shape of the meniscus-shaped interface.

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10. A module as claimed in claim 8, wherein the difference in refractive index is from 0.01 to 0.3, preferably from 0.1 to 0.2; the refractive index of one of the bodies being greater than 1.4, preferably greater than 1.5.

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11. A module as claimed in claim 8, wherein said first and said second fluid bodies show a substantially similar density.

12. A module as claimed in claim 8, provided with means for exerting a pressure to change the position and/or shape of the interface. Abstract